

Fractions

The fraction $\frac{2}{3}$ is read as (two over three) (two thirds)

- *2* is called numerator (it is the part of all)
- *3* is called denominator (it is the total)

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[1] Complete:

a)In the fraction $\frac{3}{8}$ its numerator is ……… and its denominator is ………

b)In the fraction ……… its numerator is 8 and its denominator is 11

[2] Write the fraction:

a) half = …………… b) third = ……………

c) quarter= …………… d) five-twelvths= …………

e) one-forth= …………… f) one-sevenths= …………



Equal fraction

•Any number ÷ itself = 1

•Any number ÷ 1 = itself

[1] Complete:

a) $1 = \frac{2}{\dots} = \frac{\dots}{3} = \frac{8}{\dots} = \frac{\dots}{11}$

b) $7 = \frac{\dots}{1}$

g) $6 = \frac{6}{\dots}$

l) $4 = \frac{\dots}{2}$

c) $\frac{5}{1} = \dots\dots$

h) $9 = \frac{\dots}{1}$

m) $\frac{\dots}{18} = \frac{1}{2}$

d) $4 = \frac{4}{\dots}$

i) $\frac{12}{1} = \dots\dots$

n) $\frac{2}{8} = \frac{8}{\dots}$

e) $\frac{3}{5} = \frac{\dots}{10}$

j) $\frac{2}{7} = \frac{6}{\dots}$

o) $10 = \frac{50}{\dots}$

f) $\frac{8}{12} = \frac{\dots}{3}$

k) $\frac{1}{10} = \frac{\dots}{30}$

p) $7 = \frac{14}{\dots}$

q) $3 = \frac{\dots}{3}$

r) $20 = \frac{\dots}{2}$

s) $\frac{1}{2} = \frac{5}{\dots} = \frac{3}{\dots} = \frac{\dots}{12} = \frac{\dots}{20}$

t) $\frac{3}{4} = \frac{\dots}{8} = \frac{9}{\dots} = \frac{\dots}{20} = \frac{30}{\dots}$

Simplify

Simplify:

1) $\frac{6}{12}$
2) $\frac{5}{20}$
3) $\frac{7}{21}$
4) $\frac{15}{27}$
5) $\frac{6}{8}$
6) $\frac{9}{12}$
7) $\frac{16}{24}$
8) $\frac{28}{56}$
9) $\frac{13}{26}$
10) $\frac{38}{40}$
11) $\frac{16}{32}$
12) $\frac{66}{77}$
13) $\frac{27}{45}$
14) $\frac{14}{49}$
15) $\frac{12}{48}$
16) $\frac{70}{80}$
17) $\frac{600}{900}$
18) $\frac{30}{50}$

• *Put (true) or (false):*

1) $\frac{3}{5} = \frac{9}{10}$ in simplest form ( )

2) The simplest form of $\frac{35}{45}$ is $\frac{7}{9}$ ( )

3) $\frac{2}{3} = \frac{6}{9} = \frac{8}{12}$ ( )

4) $6 = \frac{1}{6}$ ( )

5) $\frac{3}{7} = \frac{9}{21}$ ( )

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Adding and subtracting fraction

a)$\frac{5}{7} + \frac{1}{7} =$ ………

b)$\frac{2}{5} +$ ……… $= \frac{1}{5}$

c)$\frac{3}{4} +$ ……… $= 1$

d)$\frac{6}{11} - \frac{3}{11} =$ ………

e)$\frac{4}{7} -$ ……… $= \frac{1}{7}$

f)$1 -$ ……… $= \frac{1}{5}$

g)$(\frac{3}{5} + \frac{6}{5}) - 1 =$ ………

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Type of fractions

(1) Proper fraction:

- Must be < 1
- N < D
- Ex: $\frac{1}{2}$, $\frac{3}{5}$, $\frac{6}{11}$, ……….

(2) Improper fraction:

- Must be > 1
- N > D
- Ex: $\frac{2}{1}$, $\frac{5}{3}$, $\frac{11}{6}$, ……….

(3) Mixed number:

- Must be ≥ 1
- Whole number + proper fraction
- Ex: $1\frac{4}{5}$, $2\frac{6}{11}$, ………….

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[1] Write the following improper fraction into mixed number:

(1) $\frac{30}{4}$

(2) $\frac{17}{5}$

(3) $\frac{38}{5}$

(4) $\frac{59}{8}$

5) $\frac{5}{4}$

6) $\frac{11}{10}$

7) $\frac{9}{2}$

8) $\frac{63}{10}$

9) $\frac{18}{5}$

10) $\frac{18}{5}$

[2] Write the following mixed number into improper fraction:

a) $4\frac{3}{7}$ d) $6\frac{1}{4}$ g) $3\frac{5}{9}$

b) $8\frac{1}{3}$ e) $5\frac{2}{5}$ h) $4\frac{4}{7}$

c) $7\frac{3}{4}$ f) $10\frac{3}{5}$ i) $9\frac{2}{7}$

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[3] Put (true) and (false):

a) $6\frac{2}{11} = \frac{67}{11}$ ( ) …………………

b) $6\frac{2}{3} = \frac{20}{3}$ ( ) …………………

c) $\frac{12}{3} = 6$ ( ) …………………

d) $\frac{9}{4} = 2\frac{1}{4}$ ( ) …………………

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Decimal numbers

Decimal numbers consist of two parts (the whole part , the decimal part and decimal point between them as [69 . 4])

We can change the fractions into decimal number if the denomenator is 10 , 100 or 1000 …………)

Example: $\frac{2}{10} = 0.2$ $7\frac{45}{100} = 7.45$ and so on…………………

➢***Remember that:***

•5 × 2 = 10	200 × 5 = 1000
•2 × 5 = 10	500 × 2 = 1000
•50 × 2 = 100	250 × 4 = 1000
•20 × 5 = 100	40 × 25 = 1000
•25 × 4 = 100	125 × 8 = 1000
•4 × 25 = 100	8 × 125 = 1000

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➢***Now, change the following fractions into decimal numbers:***

(1) $2\frac{3}{1_0}$ (7) $2\frac{1}{10_0}$

(2) $1\frac{9}{1_0}$ (8) $\frac{50_2}{10_0}$

(3) $\frac{6}{1_0}$ (9) $\frac{20_9}{10_0}$

(4) $1\frac{5}{1_0}$ (10) $6\frac{7}{100_0}$

(5) $9\frac{1}{1_0}$ (11) $\frac{801_5}{100_0}$

(6) $4\frac{7}{1_0}$ (12) $26\,\frac{8_1}{100_0}$

➢***Write the following decimal numbers into improper fraction:***

(1)3.65 (8) 0.5

(2)0.115 (9) 0.250

(3)3.0375 (10) 4.53

(4)27.155 (11) 21.312

(5)0.08 (12) 0.507

(6)7.1 (13) 2.001

(7)6.125 (14) 37.37

- ➢ ***Write the following decimal numbers into mixed number:***

(1)3.1 — (6) 1.2

(2)17.23 — (7) 0.3

(3)5.017 — (8) 6.7

(4)28.001 — (9) 15.10

(5)6.09 — (10) 777.0070

➢ ***Change the following fractions into decimal number:***

(1) $2\frac{4}{5}$ — (9) $4\frac{3}{5}$

(2) $3\frac{1}{2}$ — (10) $\frac{8}{40}$

(3) $10\frac{1}{5}$ — (11) $8\frac{1}{4}$

(4) $\frac{17}{2}$ — (12) $47\frac{2}{25}$

(5) $\frac{9}{5}$ — (13) $\frac{53}{50}$

(6) $\frac{34}{20}$ — (14) $\frac{72}{200}$

(7) $\frac{35}{50}$ — (15) $\frac{1002}{300}$

(8) $1\frac{1}{2}$ — (16) $\frac{24}{400}$

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The place value and the value

➢ ***Write the place value of the following underlined digits:***

(a)5<u>**2**</u>3.7 (f) 6<u>**0**</u>.93

(b)416.9<u>**4**</u> (g) 456.<u>**2**</u>

(c)<u>**5**</u>02.762 (h) <u>**2**</u>060.9

(d)39.41<u>**7**</u>

➢ ***Write the value of the following underlined digits:***

(a)175.<u>**6**</u>2 (f) 67<u>**5**</u>.261

(b)74.13<u>**8**</u> (g) 7.20<u>**3**</u>

(c)1<u>**0**</u>0.1 (h) 0.0<u>**6**</u>9

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Read and write

➢ ***Write the following in digits:***

1)Eight and four tenths ……………………………………………………………

2)Six hundred thirty five and nine tenths……………………………………

3)Ten thousand, five hundred forty seven and one tenth…………………

4)Seven tenths……………………………………………………………………

5)Thirty seven and fifty hundedths……………………………………………

6)Twenty nine thousandths……………………………………………………

7)Seven hundred and thirty three hundrdths…………………………………

8) Four hundred and seven thousandths……………………………………

9) Sixteen hundredths…………………………………………………………

10) Six hundred one thousandths……………………………………………

11) Seventy six and three tenths ……………………………………………

12) Forty threeand seventy six thousandth …………………………………

➢ ***Write the following numbers in letters:***

(1)0.35……………………………………………………………………

(2)2.09……………………………………………………………………

(3)64.075…………………………………………………………………

(4)1.001……………………………………………………………………

(5)36.2……………………………………………………………………

(6)605.9……………………………………………………………………

- ➢***Complete:***

(1)3.4 = 3 + ………

(2)7.2 =……… + 0.2

(3)6.8 = ……… + ………

(4)……… = 6 + 0.3

(5)……… = 0.2 + 3

(6)2.46 = ……… + ………

(7)3.71 = 3 + ………

(8) ……… + 0.4 = 1

(9) ……… + 0.5 = 1

(10) 0.1 + ……… = 1

(11) 0.1 + 0.6 + ……… = 1

(12) 0.4 + 0.2 + ……… = 1

➢***Arrange in an ascending order:***

(a)34.12 , 34.2 , 34.102 , 31.24

…………………………………………………………………………

(b)2.7 , 1.8 , $2\frac{1}{2}$, 2.43

…………………………………………………………………………

(c)0.3 , 0.003 , 0.033 , 0.33

…………………………………………………………………………

(d)0.115 , 0.5 , $\frac{3}{20}$, $\frac{2}{8}$

…………………………………………………………………………

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➢***Arrange in a descending order:***

(a)2.9 , 2.09 , 2.009 , 2.91

…………………………………………………………………………………

(b)2.3 , 0.23 , 0.023 , 2.03 , 23.3

…………………………………………………………………………………

(c)7and 4 tenths , $\frac{706}{100}$, $7\frac{5}{8}$

…………………………………………………………………………………

➢***Underline the equal numbers:***

(a)18.04 , 18.40 , 18.040 , 18.44 , 1.840

(b)0.10 , 10.1 , 0.01 , 0.001 , 0.1

➢The numbers that lying between 3 and 4

…………………………………………………………………………………

…………………………………………………………………………………

➢The numbers that lying between 3.15 and 3.2

…………………………………………………………………………………

…………………………………………………………………………………

➢***Complete:***

(a)79.841 = ………… + …………+ ………… + …………+ ………

= …………… + ……………

(b)62.304 = ……………+ ……… + ………….+ ……… + ………

= …………… + ……………

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➢ ***Write the missing numbers:***

(a)0.6 > ……………….

(b)……………… < 0.3 < ………………….

(c)0.19 < ……………… < 0.2

Operatios on the decimal numbers

➢ ***Find the result:***

(a)6.027 + 0.28 = …………

(b)7.1 + 11.85 = …………

(c)29.165 + 361.92 = …………

(d)0.329 – 0.15 = …………

(e)163.42 – 17.8 = …………

(f)14 – 0.14 = …………

➢ ***Put (<, >, =):***

(a)7.5 + 3.2 ⬭ 11.6 – 1.7

(b)13 – 1.5 ⬭ 14.6 – 3.7

(c) 1.2 ⬭ $1\frac{1}{2}$

(d) 1 ⬭ 0.999

(e) Three hundreds and four tenth ⬭ 30.04

(f) 1.25 ⬭ $1\frac{3}{4}$

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➢ ***Find the results:***

(a)300 ÷ 100 = …………

(b)51.00 ÷ 10 …………

(c)82301 × 1000 = …………

(d)720 × 100 = …………

(e)164.3 ÷ 100 = …………

(f) 1304.25 × 10 = …………

(g) 7.5 ÷ 100 = …………

(h) 10 ÷ 1000 = …………

(i) 67.336 × 10 = …………

(j) 228.99 ÷ 1000 = …………

➢ ***Complete:***

(a)230 P.T. = L.E. ………………

(b)39 dm = ……………… m

(c)34 P.T. = L.E. ………………

(d) ………… ÷ 10 = 4.5

(e) 75 ÷ ………… = 0.75

➢ ***Put (< , > , =)***

(a)372 ÷ 10 ⬭ 372 ÷ 100

(b)4.3 + 2.5 ⬭ 48٠ ÷ 100

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Story problems

(1)Mazen has 35 pounds. He bought a ball for L.E. 9.75, and a book for P.T. 840. How much money were left?

……………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………

(2)Hanaa has 200 pounds. She wants to buy a shoe for L.E. 99.8, a bag for L.E45.75 and a dress for L.E. 70.25. can shee buy all what she wants? Why?

……………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………

(3)Hossam has 425 L.E. and his sister hend has 9800 P.T. find the difference between what they have

……………………………………………………………………………………………
…………………………………………

(4)Ahmed has P.T. 653.5 and his friend Omar has P.T. 789.23 find the difference between what they have in pounds.

……………………………………………………………………………………………
……………………………………………………………………………………………

(5) Mona had eight pounds and three quarter, she gave her sister three pounds and half. How much money is left with Mona?

……………………………………………………………………………………………
……………………………………………………………………………………………

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General revision

➢ **Choose the correct answer:**

(a) The place value of the digit 4 in the number 9.458 ……… (5 tens , $\frac{4}{100}$, $\frac{4}{10}$)

(b) 612 tenths = ……………… (6120 , 61.2 , 6.12)

(c) 8 tens and 8 tenths=………… (8.8 , 8.08 , 80.8)

(d) 3.2 =……………… ($\frac{3}{2}$, $\frac{320}{100}$, $3\frac{2}{100}$)

(e) The decimal number that lies between 0.3 and 0.4 is …… (0.5 , 0.2 , 0.33)

(e) $7\frac{3}{5}$ = …………………… (7.6 , 7.3 , 7.5)

(f) $\frac{23}{2}$ = …………………… (11.5 , 11.2 , 11.02)

(g) $\frac{9}{4}$ = …………………… (2.5 , 2.25 , 2.75)

(h) $\frac{3}{10}$ = ………………… ($\frac{300}{1000}$, 0.03 , 0.003)

(i) $7\frac{9}{100}$ = ………………… (7.9 , 7.09 , 7.009)

(j) $\frac{64}{80}$ = ……………… (0.8 , 0.08 , 0.008)

(k) 35.40 = ……………. ($\frac{354}{10}$, $\frac{354}{100}$, $\frac{354}{1}$)

(l) 274.35 = ………….. ($\frac{27435}{10}$, $\frac{27435}{100}$, $\frac{27435}{1000}$)

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➤ ***Put (true) or (false) :***

(a) 0.240 = 0.024 ( )

(b) $\frac{9}{100}$ = 0.900 ( )

(c) 3.25 > $3\frac{2}{5}$ ( )

(d) The decimal number 0.102 between 0.1 and 0.11 ( )

(e) $\frac{1}{4}$ = 25 tenths ( )

(f) The place value of the digit 6 in 5.263 is $\frac{60}{100}$ ( )

➤ ***Complete:***

a) 47.85 + …………… = 100

b) 33.3 - ……………… = 12.008

c) ………………… + 54.8 = 77.59

d) ………………… - 41.41 = 3.8

e) $1 + \frac{2}{7}$ = ……………

f) Seven and eight hundredths = …………

g) 74 + 0.005 = ………………….

h) The place value of 5 in 8.056 is ………… and its value is …………….

i) 0.066 is read as ……………………………………………………………

j) 40.907 = …………… + ……………..

k) Ninety six and seven thousandths = ………………

l) ………..+ ($\frac{6}{11}$ + $\frac{2}{11}$) = 1

m) $\frac{3}{4}$ - ………. = $\frac{1}{2}$

n) ……….. + $\frac{2}{5}$ = 1

o) $\frac{3}{4}$ + ………. = 1 $\frac{2}{4}$

p) The place value of 3 in 7.63 is ………… and its value is …………….

q) One hundred sixty eight and six hundredths = ………………

r) 8 + 0.02 = ………………….

s) 1.006 = ……………………………………………………… (is read as)

Approximation

❖ *Remember that:*

○ ***The place value of each digit of any number:***

(1)The whole number ⟶ *unit*

(2)Tenths , 1 decimal place , 0.1 , $\frac{1}{10}$ ⟶ *Tenth*

(3)Hundredths , 2 decimal places , 0.01 , $\frac{1}{100}$ ⟶ *Hundredth*

(4)Thousandths , 3 decimal places , 0.001 , $\frac{1}{1000}$ ⟶ *Thousandth*

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- The week digits are: 1 , 2, 3 , 4
- The strong digits are : 5 , 6 , 7 , 8 , 9

[1] Approximate to the nearest tens:

a)7651 b) 21395 c) 9999

[2] Approximate to the nearest hundreds:

a)53824 d) 990909

b)89950 e) 603499

[3] Approximate to the nearest thousands:

c)786296 c) 75049.9

d)5519900 d) 4321.99

[4] Approximate to the nearest ten thousands:

a)65432.1 b) 236849.99 c) 13950.5

[5] Approximate to the nearest hundred thousand:

a)87654321 d) 12345678.9

b)5614765.3

[6] Approximate to the nearest tenth:

(a)13.57 (e) 296.64 (i) $6399\frac{7}{50}$

(b)90.092 (f) $449\frac{3}{4}$ (j) $502\frac{37}{100}$

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Find the result:

a)29301.5 + 5436.4 = ………… ≃ …………(to the nearest ten thousand)

b)6931.5 + 9136.72 = ………… ≃ …………(to the nearest hundred thousand)

c)25304 + 9467 = …………… ≃ ………… (to the nearest tens)

d)46257 - 15391 = …………… ≃ …………. (to the nearest hundreds)

e)14.352 + 25.687 = ………… ≃ ………… (to the nearest $\frac{1}{10}$)

f)253.607 – 114.98 = ………… ≃ ………… (to the nearest 1 decimal place)

✓ ***Approximate to the nearest unit:***

(a) 10.1 (e) 53.5 (i) $967\frac{3}{4}$

(b) $\frac{7}{10}$ (f) 37.54 (j) $657\frac{4}{5}$

(c) $\frac{3}{5}$ (g) 73.45 (k) 624.09

✓ ***Find the result***

(a) 75 + 64.3 = …………… ≃ ……………… (to the nearest whole number)

(b) 362.6 – 29.1 = …………… ≃ ……………… (to the nearest unit)

➢ ***Complete:***

(a) 6905 m ≃ ……………… km

(b) 4375 P.T. ≃ ………………L.E.

(c) 6140 gm ≃ ……………… kg

(d) 7806 m ≃ ……………… km

(e) 135 minutes ≃ ……………… hours

(f) 97.75 m ≃ ……………… m

(g) 39 months ≃ ……………… year

(h) 2676 gm ≃ ……………… kg

(i) 173 cm ≃ ……………… m

(j) $39\frac{3}{5}$ cm ≃ ……………… cm

(k) 100 days ≃ ……………… week

(l) $5\frac{3}{4}$ kg ≃……………………kg

➢ ***Complete:***

(a)9917 ~ 9920 approximating to the nearest ……………………

(b)768154 ~ 770000 approximating to the nearest ……………………

(c)329917 ~ 300000 approximating to the nearest ……………………

(d)0.643 ~ 1 approximating to the nearest ……………………

(e)49 ~ 0 approximating to the nearest ……………………

(f)9456 ~ 10000 approximating to the nearest ……………………

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(1)What is the greatest whole number that if approximating to the nearest ten thousands the result will be 470 000.

……………………………………………………………………………………

……………………………………………………………………………………

(2)What is the smallest whole number that if approximating to the nearest hundred thousand the result will be 15 200 000.

……………………………………………………………………………………

……………………………………………………………………………………

(3)What is the greatest and the smallest whole number that if approximating to the nearest 1 decimal place the result will be 72.2

……………………………………………………………………………………

……………………………………………………………………………………

The greatest : ……………………… The smallest: ………………………

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(4)If the distance between two cities is 4625 meters approximate this distance to the nearest km

……………………………………………………………………………………………

……………………………………………………………………………………………

(5)If the distance between two cities is 186902 meters approximate this distance to the nearest km

……………………………………………………………………………………………

……………………………………………………………………………………………

(6)A cyclist is riding with speed of 7300 m. per hour find the distance he covers in 3 hours approximating to the nearest 1000?

……………………………………………………………………………………………

……………………………………………………………………………………………

(7)Mona bought 3 kg of apples for P.T. 475 each, how much money did she pay? (Approximated to the nearest pound)

……………………………………………………………………………………………

……………………………………………………………………………………………

(8)Sara bought a bag for 9276 P.T. and a dress for L.E. $173\frac{1}{2}$, if she had L.E. 300, how much is left with her? Then approximate to the nearest L.E. ?

……………………………………………………………………………………………

……………………………………………………………………………………………

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General revision

[1] Find the result:

a) 7.26 + 8.039 = …………….. ≃ …………… (to the nearest hundredths)

b) 99 – 54.67 = ……………… ≃ …………… (to the nearest tens)

c) 3.7 × 100 = ……………….. ≃ …………… (to the nearest 100)

d) 4.8 ÷ 10 =………………… ≃ …………… (to the nearest $\frac{1}{10}$)

a) 6.25 + 2.745 = …………….. ≃ …………… (to the nearest hundredths)

b) 73.9 – 8.44 = ……………….. ≃ …………… (to the nearest whole number)

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[2] Put (<, >, =) :

a) 0.46 ⬭ 0.457

b) 7.3 + 2.8 ⬭ 11

c) $\frac{2}{5}$ ⬭ 0.37

a) $\frac{9}{100}$ ⬭ 0.009

b) 8.5 ⬭ $\frac{8490}{1000}$

c) $\frac{3}{4}$ ⬭ 0.79

[3] Complete:

a) $\frac{4_0}{20_0}$= ……….. (Simplify)

b) $4\frac{2}{1_3}$ = ……………. (as an improper)

c) 45 minutes ≃ …………….. hour

d) 7.89 = ……………….. (as a mixed number)

e) $\frac{3}{8}$= …………….. (as a decimal number)

a) 976 piaster's ≃ ………….pounds

b) 5 hundred + 9 tenths = ………….

c) The number which lie between 0.7 and 0.8 is ………………….

d) 9 tens and 9 tenths = …………….

e) 10 , 9.5 , 9 , …………. , …………. , ………….

f) 8 , 7.6 , 7.2 , ………… , …………. , ………….

g) $6\frac{1}{4}$ = …………………….. (in an improper fraction)

h) ………….. + 64.333 = 100

i) 82 - ………… = 9.438

j) $\frac{2}{4} = \frac{.......}{16}$

k) $\frac{2}{3} = \frac{.........}{6} = \frac{10}{........} = \frac{.........}{27} = \frac{12}{..........}$

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Congruency

The symbol ≡ is read as (is congruent to)

Two polygons are congruent if:-

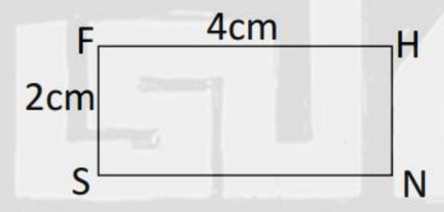
(1)Their corresponding sides are equal in length.

(2)Their corresponding angles are equal in measure.

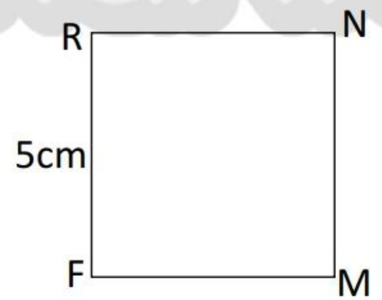
➢**Remarks:-**

1) Two squares are congruent if the side length of one of them equals the side length of the other one (since all its angles are right angles)

[1] Draw the rectangle ABCD such that it is congruent to the rectangle FSNH.



[2] Draw the square OPSQ such that it is congruent to the square RFMN.



[4] Put (√) or (x) :

(a)The measures of the angles of non-congruent figure are not equal ( )

(b)The measures of the angles of the congruent figure are not equal ( )

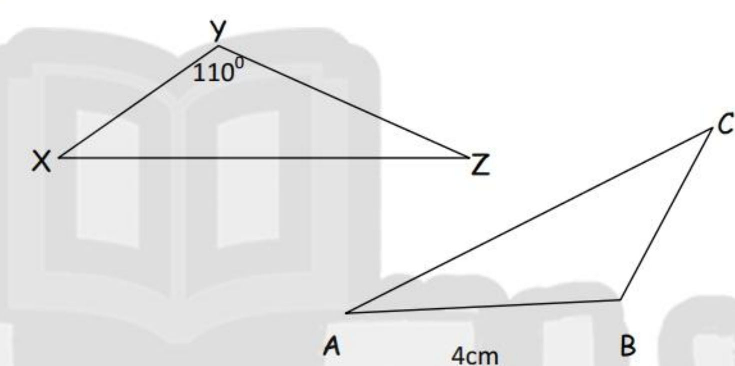
(c)An isosceles triangle can be congruent with an equilateral triangle ( )

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[5] In the opposite figure:

If △ ABC ≡ △ ZYX

Complete:

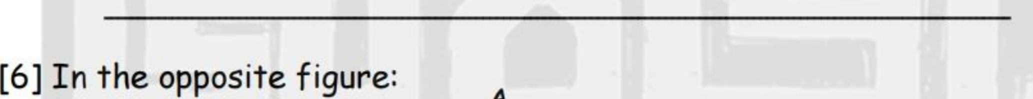


a)$\overline{YX}$ ≡ ……………

b)∢ A ≡ ……………

c)M(∢ B) ≡ ……………⁰

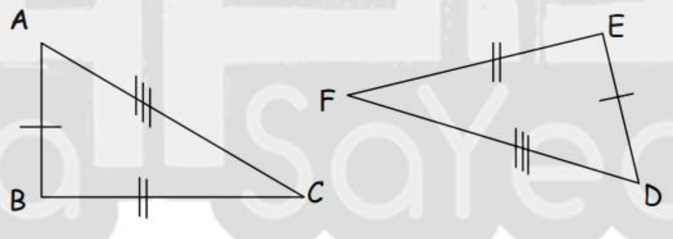
d)$\overline{ZY}$ = ……………cm



[6] In the opposite figure:

If △ ABC ≡ △ DEF

Complete:



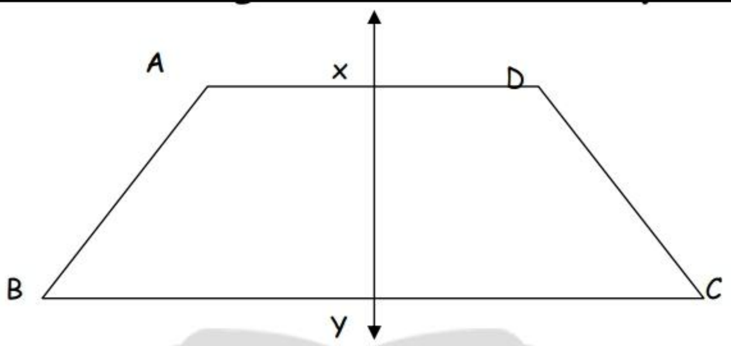
a)$\overline{AB}$ ≡ ……………

b)∢ C ≡ ………..

c)$\overline{BC}$ = …………… cm



Symmetrical figures and lines of symmetry



$\overleftrightarrow{XY}$ is a symmetrical line (folding line)

A is congruent to D ⟶ A ≡ D

B is congruent to C ⟶ B ≡ C

$\overline{AB}$ is congruent to $\overline{DC}$ ⟶ $\overline{AB} \equiv \overline{DC}$

The figure ABYX is congruent to the figure DCYX

The shape	Lines of symmetry
Rectangle	2
Square	4
Parallelogram	0
Rhombus	2
Isosceles trapezium	1
Non-isosceles trapezium	0
Equilateral triangle	3
Isosceles triangle	1
Scalene triangle	0
Circle	Many (very large number)

[2] Put (√) or (x) :

a)There are more than one line of symmetry for this shape ( )

b)B is congruent to C ( )

c)Δ ADC is congruent to Δ ABC ( )

d)Δ ADC is symmetry to Δ ABC ( )

e)The parallelogram has 1 line of symmetry ( )

f)There is no line of symmetry in isosceles triangle ( )

A D B C

---

[3] Complete (Write how many folding line in each figure)

a)The parallelogram has ………. lines of symmetry.

b)The rectangle has ………… lines of symmetry.

c)The scalene triangle has ……….. lines of symmetry.

d)The square has ………. lines of symmetry.

e)The isosceles trapezium has ………. line of symmetry.

f)The rhombus has ………… lines of symmetry.

g)The non isosceles trapezium has ……….. line of symmetry.

h) The circle has ……….. line of symmetry.

-

➢ ***Put (true) or (false):***

(a)The parallelogram has 4 lines of symmetry ……………………………

(b)The rectangle has 4 lines of symmetry ……………………………

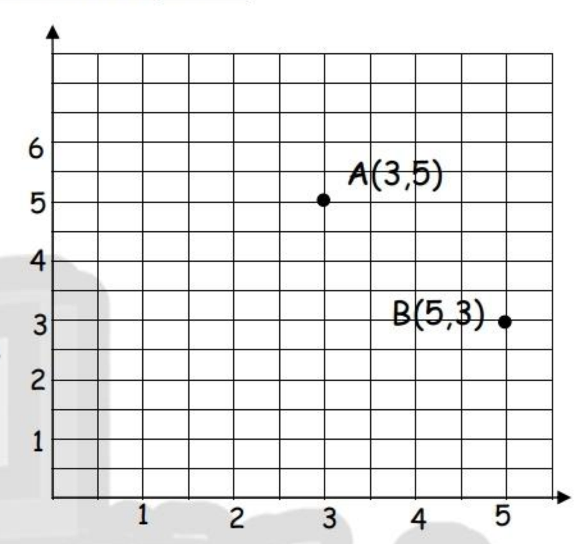
(c)The scalene triangle has 3 lines of symmetry ……………………………

(d)The square has 4 lines of symmetry ……………………………

(e)The trapezium has line of symmetry ……………………………

-

Two-dimensional coordinate's plane



➢**Remark:**

(1) There is an ordered pair for each point in the coordinate plane

(2) If A= (3 ,5) , then the first coordinate (dimension) of A is 3, and the second coordinate (dimension) of A is 5.

(3) (3 , 5) ≠ (5 , 3) since B = (5 , 3)

---

[2] In the 2-dimensional coordinate plane,

Find the position of each of the following points:

F is represented by (1 , 2)

M is represented by (3 , 1)

S is represented by (2 , 4)

O is represented by (4 , 3)

---

[3] In the 2-dimensional coordinate plane.

a) Draw the figure ABCD where : A (1 , 5), B (3 , 1) , C (7 , 1) and D (5 , 5).

Draw $\overline{A□}$, $\overline{BC}$, $\overline{CD}$, $\overline{D□}$.

b)This shape is called …………………

c) $\overline{A□}$ ………….. $\overline{C□}$

d) Each two opposite sides are …………… , ……………

[4] In the 2-dimensional coordinate plane

a) Draw the figure XYZ L, where X (3, 6), Y (5 , 5), Z (3 , 4) and L (1 , 5)

b) Draw in the same plane the figure ABCD.

A (4 , 3), B (6 , 4), C (8 , 3) and D (6 , 2)

c) Are the two figures congruent? ……………………

d) The name of the figure is XYZL is ……………………

e) $\overline{L\square}$ ………. $\overline{Z\square}$ and AB ………. CD.

---

[5] Draw the triangle XYZ where X (1 , 2) Y (1 , 0) Z (4, 0)

Then draw triangle ABC congruent to the triangle XYZ.

➢ ***Put (true) or (false):***

(a)The parallelogram is a quadrilateral where every two opposite side are parallel (   )

(b)The rectangle is a quadrilateral where all angles are right angles (   )

(c)The rhombus is a quadrilateral where all its sides are equal in length (   )

(d)The ordered pair (2,7) = the ordered pair (7,2) (   )

-

➢ ***Complete:***

(a)A diagonal of the rectangle divides it into two ………..... triangles but

it is not ……………………….. For the rectangle

(b)Two squares are congruent if…………………………………………

(c)If X = (7 , 3), then the first coordinate of X is …………… and the second coordinate of X is ………………….

(d)If B = (21 , 53), then the second coordinate of B is …….. and the first coordinate of B is …………………..

(e)If (5 , x) = (y , 6) then, x = …………… and y = ………………

(f)The rectangle ABCD ≡ the rectangle XYZL, Then BC ≡ ……………..

and m< Z ≡ m< ………………….

The capacity

1 Liter = 1000 milliliter

[1] Complete:

a)3 Liter = ………………… milliliter.
b)6000 milliliter = …………… liter.
c)7500 milliliter = …………… liter.
d)7.85 liter = …………… milliliter.
e)5 liter = …………… milliliter.
(f) 6.250 liter = …………… milliliter.
(g) 30 liter = …………… milliliter.
(h) 8 milliliter = …………… liter.
(i) 5.5 liter = …………… milliliter.
(j) 90 milliliter = …………… liter.

[2] Put (< , > , =):

a) $\frac{1}{4}$ dm^3 ☐ $250 cm^3$

b)4500 milliliter ☐ 5 liter

c) $\frac{3}{4}$ liter ☐ 30 milliliter

[3] Arrange in an ascending order:

$2000 cm^3$, $3 dm^3$, 2.75 liters , 1650 milliters

…………… , …………… , …………… , ……………

-

The weight

1 ton = 1000 kg

1 kg = 1000 gm

[1] Complete:

a)4250 kg = ………………. ton

b)7 ton = ………………. kg.

c)3 million gm = ………………. ton

d)6500 gm = ………………. kg

(e) 8 kg = ………………. gm

(f) 2750 kg = ………………. gm

(g) 6 ton = ………………. gm

(h) 9250 kg = ………………. ton

[2] Arrange in an ascending order:

2500 kg , 600 gm , 5 ton

………… , ………… , …………

850 kg , 700 gm , $\frac{1}{2}$ ton

…………… , …………… , ……………

[3] Choose:

a)The weight of a golden ring ………… (5 kg, 5 gm , 5 ton)

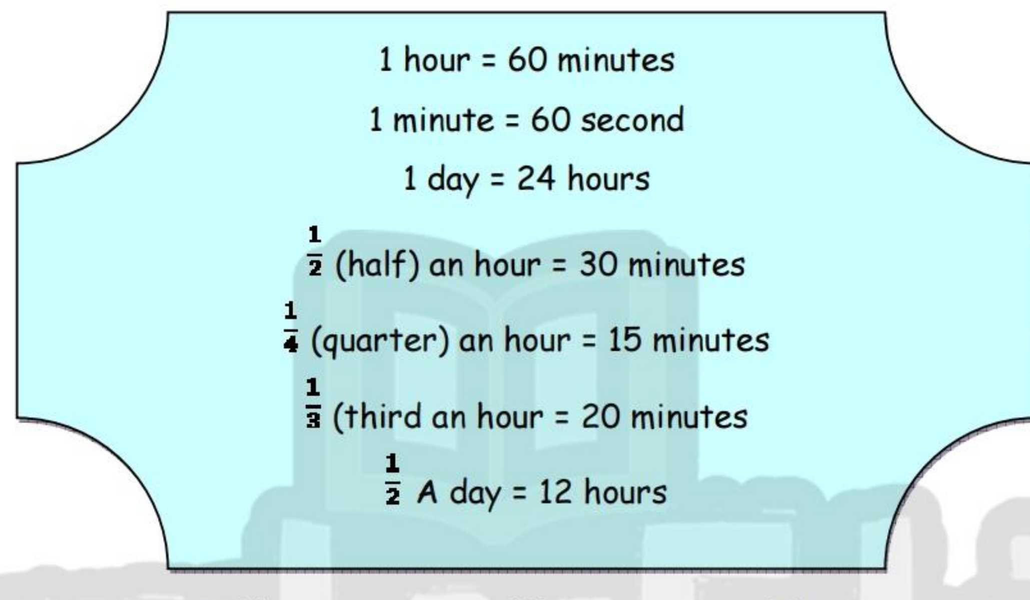
b) A lorry can be loaded with ………………. (30 kg , 3 ton , 300 gm)

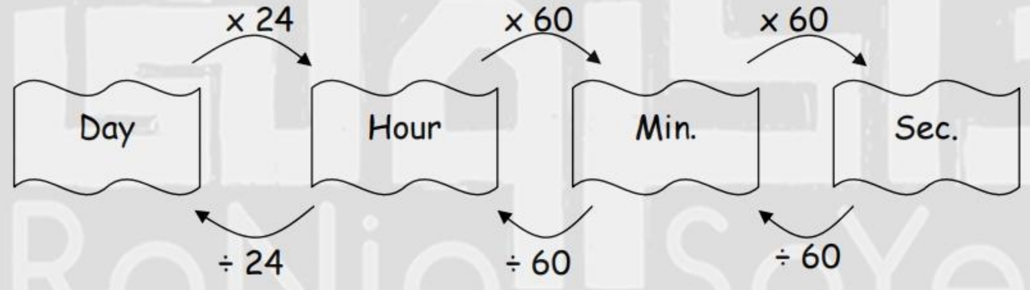
b)My sister weights ………………… (65 gm , 1 ton , 67 kg)

c)The weight of my book …………. (1kg , 0.5 kg , 1 ton)



The Time





[1] Complete:

a)3 hours = …………… minutes.

b)$\frac{1}{2}$ hours = …………… min.

c)370 min = …………… hours.

d)135 min = …………… hours.

e)32 hours = …………… days.

f)2 days = …………… min.

g)6.5 days = …………… hours.

h) $\frac{1}{3}$ day = ……………. min.

i) $\frac{1}{4}$ day = ……………. hours

j) $\frac{3}{4}$ day = ………… Hours = ……………. Min

k) 2 days and half = ……………… hours

l) 1 $\frac{1}{2}$ hours = ……………… minutes

m) 30 days = ………….. weeks, ……….. days

n) 2 hours, 20min = ……………… min

---

[2] Arrange in a descending order:

$\frac{1}{3}$ a day , 7200 sec. , 2880 min. , $\frac{1}{4}$ a day

……………… , ……………… , ……………… , ………………

5 days , 3700 minutes , 35 hours

……………… , ……………… , ………………

---

[3] Put > , < or =

a) 3.5 hours ☐ 12700 sec.

b) $\frac{1}{2}$ hour ☐ $\frac{1}{2}$ day

c) 4 days ☐ 120 hours

d) 3000 min ☐ 180000 sec.

e) 730 min ☐ 5 hours.

f) 15 min ☐ half an hour

-

The Temperature

➢ **Remarks**

- The unit for measuring temperature is: degree centigrade (^0C)
- Temperature is measured by the thermometer
- The normal body temperature is 37^0C
- The temperature of boiling water is 100^0C
- The temperature of freezing water (ice) is 0^0C

➢ ***Choose:***

a)The normal body temperature is …………………… (27^0C – 35^0C – 37^0C)

b)The body temp. of a sick person may be ……… (37^0C – 40^0C – 63^0C)

c)The weather is very hot, so the temp. will be ……… (20^0C – 5^0C – 40^0C)

d)The weather is very cold, so the temp. will be ……… (10^0C – 48^0C – 30^0C)

e)In summer we wear (Light – normal – heavy) clothes.

f)In spring we wear (Light – normal – heavy) clothes.

g)The water becomes ice at …………… (1^0C - 100^0C - 0^0C)

h)The water boils at …………… (1^0C - 100^0C - 0^0C)

-

Story problems

[1] A farmer works 9 hours daily, his salary is L.E 5 per hour (he works 6 days a week), find his Salary

(a) In a week ……………………………………………………………………

(b) In 4 weeks ………………………………………………………………

[2] A woman bought 7000 gm of oranges, each one kilogram for L.E 13. How much money did she pay ? ……………………………………………………………

[3] A family of 6 persons eat 3 kg of fish every week. The price of each kilogram is L.E 17. How much money does this family pay for buying fish per month ? ………………………………………………………………………

General revision

[1] Complete:

a)650 liter = ……………………… milliliter.

b)7 liter = ……………………… milliliter.

c)3.5 days = ……………………… hours.

d)800 milliliter = ……………………… liter.

e)8.75 tons = ……………………… kg.

f)18 hours = ……………………… day.

g)$\frac{3}{4}$ hour = ……………………… sec.

h)235 min = ……………………… hours.

-

The probability

Note that:

The certain event = 1

The impossible event = Zero

The possible event = fraction (lying between 0 and 1)

The possible event < 1

[1] Choose:

a)The sun rises in the west ……………. (certain – possible – impossible)

b)A pupil goes to school ……………… (certain – possible – impossible)

c)I watch television 4 times a week ……… (certain – possible – impossible)

d)I go on a school trip …………………. (certain – possible – impossible)

e)My hair will become green …………… (certain – possible – impossible)

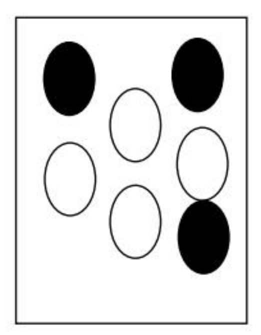
[2] *Look at the opposite figure, and complete .*

a)The probability of getting black ball ………………

b)The probability of picking white ball ………………

c)The probability of the drawn ball being red …………

d)The probability of getting black or white ball ………



-

[3] If we flip a coin, we get either heads or tails. Complete :

a)The probability of getting heads = ……………..

b)The probability of getting tails = ………………

[4] In a class of 40 pupils, 23 are boys and 17 are girls one day, only 39 pupils came to school.

What is the probability of the absent pupil being a boy ? …………………….

[5] In a class of 50 pupils, 35 of them are girls. If a pupil chosen randomly , find the probability that the pupil is a girl ……………

A boy ………….

[6] If we drawn from a box with 3 red balls, 5 yellow balls and 2 green balls. Then find:

(a)The probability of getting red ball ……………

(b)The probability of getting black ball ……………

(c)The probability of getting green ball ……………

(d)The probability of getting yellow ball ……………

(e)The probability of getting red or yellow ball ……………

(f)The probability of getting green or yellow ball ……………

(g)The probability of getting red or yellow or green ball ………………

[7] if we throw a die, then: Find the probability of getting

a)Number (4) …………….

b)Number less than 1 …………….

c)Even number …………….

d)Number less than 4 …………….

e)Number more than 0 …………….

f)Number more than 6 …………….

(g) Odd number …………….

(h) Number (7) …………….

(i) Number less than 6 …………….

(j) Number more than 5 ……………

(k) Number (1) ……………

(l) Prime number …………….

-

Collecting, displaying and representing data

[1] The following table shows the maximum and the minimum temperature in five capitals during one day :

Capital / Max and Min	Cairo	Paris	Rome	London	Mosco
Maximum	23	18	10	12	6
Minimum	17	12	5	6	3

Represent these data by double bars graph

[2] The following table indicates how many hours at night Manal slept for the last two weeks

	Sat .	Sun.	Mon.	Tues.	Wed.	Thurs.
Week 1	6	4	7	6	6	9
Week 2	8	7	8	8	5	7

a) Represent these data using the double bars graph .

b) How many hours did Manal sleep for the last two weeks ?



[3] The following table shows the daily profit in L.E of three merchants in one week

Day / Merchant	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.
Merchant A	60	35	30	35	50	40
Merchant B	50	35	50	70	65	50
Merchant C	60	35	60	55	70	60

Represent these data by triple bars .

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[4] By using the tree – diagram to find six 3_different digits numbers (by using the digits 8 , 3 and 7)

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